REMARKS/ARGUMENTS

Claims 1-23 are pending, wherein no claims have been amended. While claim 7 presently withdrawn from consideration, Applicants respectfully request reconsideration and allowance of this claim upon the allowance of a generic claim (*i.e.*, claim 5 from which claim 7 depends).

Preliminarily, Applicants wish to thank the Examiner for reconsidering and withdrawing each of the objections and rejections set forth in the previous Office Action based on the amendments and arguments set forth in Amendment "B" and Response filed April 23, 2003.

I. INTRODUCTION

The present invention is generally directed to propellants for gas generators that are suitable for use in deploying safety air bags in automobiles. The inventive compositions comprise (a) at least one fuel, (b) at least one oxidizing agent, and (c) at least one essentially chemically-inert slag trap that is at least one of Al_2O_3, TiO_2, or ZrO_2 particles formed so as to have a specific surface area of at least about 40 m^2/g. *See* Application, Claim 1.

The slag trap acts as an internal filter and substantially prevents the formation of powder (dust-type) particles as well as their expulsion from the housing of the gas generator. *See* Specification, page 1, first paragraph. Accordingly, the compounds used as slag traps according to the present invention are characterized by being "essentially chemically-inert", *i.e.*, these compounds do not participate in the chemical reaction during the combustion of the propellant composition. Moreover, in order for the Al_2O_3, TiO_2, or ZrO_2 particles to function as a slag trap they have a high fusion point, so that they do not melt during the combustion and, thus, remain in their original condition so as to function as a slag trap from the beginning until the end of the combustion process. Due to the highly dispersed state of these compounds, they have a large surface (at least about 40 m^2/g) and, therefore, cause cooling of the liquid or molten burn-up products to a solid state. In this way they serve as an internal filter within the gas propellant composition and prevent or inhibit the expulsion of undesired toxic dust from the propelling charges of the gas generators, and consequently from the housing of the gas generators, during burn-up. *See* Application, page 9, last paragraph through page 11, second paragraph.

The compounds used as slag traps according to the invention are distinguished from compounds used as slag formers (slagging agents). Compounds conventionally used as slag

formers melt during combustion and, in particular, participate in the chemical reaction. Thus, they do not remain unchanged during the combustion process. Indeed, the purpose of slag formers is to participate in the reaction so as to form slags, which can be filtered by way of mechanical filters in the gas generator housing.

The use of the claimed particles as slag traps results in a simplification of the filter in the housing of the gas generator because additional (*e.g.*, mechanical) fine filters in the housing of the gas generator are in part not necessary. This also leads to an advantageous saving of weight of the airbag gas generator. Furthermore, the formation of dust-type particles that can be expelled by the gas generator of an airbag, which can enter a person's lungs and pose a potential health hazard, is minimized by the use of the slag trap components in the propellant compositions of the present invention.

In one embodiment, a portion of the slag trap particles can also serve as a carrier for a catalyst, such as platinum metal, platinum metal alloys, or copper alloys. Application, page 12; claim 23. The catalyst is preferably included as a catalytically effective layer (*e.g.*, monolayer) on the slag trap particles. *Id.* Preferred catalyst particles include Al_2O_3 as the carrier and Pt, Pd or Cu as the metal catalyst. Application, page 12.

II. CLAIM REJECTIONS UNDER 35 U.S.C. § 103

A. Combination of Matsuda et al., Yoshida et al., and Niles

The Office Action rejects claims 1-6 and 8-23 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,149,745 to Matsuda et al. in view of U.S. Patent No. 5,827,996 to Yoshida et al. and U.S. Patent No. 3,929,530 to Niles. In response, Applicants first note that neither Matsuda et al. nor Niles, or the combination of Matsuda et al. and Niles, teach or suggest propellant compositions that include the slag trap recited in any of the independent claims. That is clear from the fact that the previous rejection based on the combination of Matsuda et al. and Niles set forth in the previous Office Action has been withdrawn by the Examiner. As a result, the current Office Action further combines Matsuda et al. with Yoshida et al. based on the assertion that "[i]t would have been obvious to use the titanium dioxide taught by Yoshida et al. with the composition of Matsuda since Yoshida suggests that it will function to reduce the concentrations of CO and NOx and this is the purpose of the titanium oxide fiber disclosed in Matsuda."

In response, Applicants submit that one of skill in the art would not have combined Matsuda et al., Yoshida et al., and Niles in the manner urged in the Office Action for at least three reasons: (1) there is no teaching or suggestion in the art that would have motivated one of skill in the art to combine Matsuda et al. with Yoshida et al. to obtain the claimed slag trap; (2) there would have been no reasonable expectation of success; and (3) the combination of Matsuda et al., Yoshida et al., and Niles does not yield every limitation set forth in the claims. Moreover, because the Office Action mischaracterizes Matsuda et al. when alleging the motivation to combine Matsuda et al. with Yoshida et al., the Office Action fails to state a *prima facie* obviousness rejection based on Matsuda et al., Yoshida et al., and Niles.

According to MPEP § 2142,

> To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation . . . to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed Cir. 1991).

In view of the burden borne by the PTO in establishing a *prima facie* case of obviousness, failure of the PTO to conclusively establish any one of the criteria identified in the MPEP will eliminate the rejection based on the combination of Matsuda et al., Yoshida et al., and Niles. Accordingly, any further Office Action must respond to and rebut each of the following arguments in order to maintain the rejection (or sustain it on appeal). Absent that, any further rejection based on Matsuda et al., Yoshida et al., and Niles in combination with any other reference, or based on a new characterization of Matsuda et al., Yoshida et al., and Niles, must be part of a non-final Office Action since Applicants have not amended the claims.

1. There is no Teaching or Suggestion in the Art to Combine Matsuda et al. with Yoshida et al.

The Office Action admits that Matsuda at el. fails to teach or suggest the use of the slag trap recited in the claims of the present application. *See* Office Action, page 2. As persuasively argued in Amendment "B" and Response, which is incorporated herein by reference, Matsuda et

al. not only discloses the use of "ceramic whisker or fiber" (col. 2, line 18), Matsuda et al. expressly teaches away from the use of slag trap "particles" as disclosed and claimed in the present application. In particular, Matsuda et al. teaches the criticality of using ceramic whiskers or fibers having specific dimensions of length, diameter, and aspect ratio. Col. 2, lines 57-65. Moreover, Matsuda et al. teaches the undesirability of using ceramic particles instead of whiskers or fibers: "a particulate one is notably reduced in a scavenging effect of a solid residue since it is not arranged in a steric network form" like a whisker or fiber. *See* Col. 2, lines 60-63. Thus, Matsuda et al. teaches away from the use of particulate ceramic materials because they are, according to Matsuda et al., "notably reduced in a scavenging effect". As a result, Matsuda et al. teaches away from the use of "particles" instead of the whiskers or fibers disclosed therein, thus teaching away from the combination of Matsuda et al. and Yoshida et al.

For this reason alone, the claims as previously presented are patentable over the combination of Matsuda et al., Yoshida et al., and Niles

2. There is no Reasonable Expectation of Success Based on the Teachings of the Cited References

Each of the independent claims in the present application requires the use of "slag trap" particles (*i.e.*, particles that are capable of trapping slag formed during combustion of the gas generating composition). This solves the technical problem of the formation of slag during combustion, which can result in fine particles being expelled from the housing of the gas generator during use. Based on the combined teachings of Matsuda et al., Yoshida et al., and Nile, there is no reasonable expectation of success (*i.e.*, there is no reasonable expectation that the technical problem solved by the slag trap particles within the claimed composition would be solved by combining Matsuda et al., Yoshida et al., and Nile).

Matsuda et al. does not characterize the ceramic whiskers or fibers disclosed therein as being able to trap slag. Yoshida et al. similarly does not characterize the titanium oxide particles disclosed therein as being able to trap slag. Niles does not disclose any component characterized as a slag trap. Indeed, the Office Action does not even allege that any of the references teach or suggest the use of a slag trap. Instead, the Office Action merely alleges that Yoshida et al. "suggests that [titanium dioxide] will function to reduce the concentrations of CO and NOx". Office Action, Page 3. Because Matsuda et al., Yoshida et al., and Niles contain no teaching or

suggestion relating to the technical problem of trapping slag, let alone any solution to this problem, there is no reasonable expectation that combining these references would solve the technical problem solved by the slag trap recited in the claims of the present application, absent resorting to the present application. However, a rejection may not be based on hindsight, with an applicant's own invention as a template.

Moreover, Matsuda et al. (the primary reference) expressly disparages the use of ceramic particles instead of whiskers or fibers on the grounds that ceramic particles are "notably reduced in a scavenging effect". Col. 2, lines 60-61. Because of this, one of skill in the art would not have expected an improved "scavenging effect" of any kind, let alone to better trap slag, by replacing the ceramic whiskers or fibers of Matsuda et al. with the titanium dioxide particles of Yoshida et al. For this additional reason, there would have been no reasonable expectation of success based on the teachings of the cited references.

Based on the foregoing arguments, the claims as previously presented are further patentable over the combination of Matsuda et al., Yoshida et al., and Niles for this additional reason.

3. The Combination of Matsuda et al., Yoshida et al., and Niles does not Teach or Suggest Every Limitation set forth in the Claims

The combination of Matsuda et al., Yoshida et al., and Niles fails to disclose a propellant composition that includes an "essentially chemically-inert slag trap" that is "at least one of Al_2O_3, TiO_2, or ZrO_2 particles". As discussed immediately above, none of the references characterize any of the components disclosed therein as a "slag trap" (*i.e.*, a component capable of trapping slag formed during combustion of the propellant composition). Therefore, the combination of references fails to teach or suggest a "slag trap".

Because the concept of inherency is applicable only to anticipation under 35 U.S.C. § 102, whether or not the whiskers or fibers of Matsuda et al., the titanium dioxide particles of Yoshida et al., or any component in Niles inherently trap slag is entirely immaterial to the obviousness rejection based on the combination of Matsuda et al., Yoshida et al., and Niles. According to long-standing case law, that which is inherent in the prior art, if not known at the time of the invention, cannot form a proper basis for rejecting the claimed invention as obvious under 35 U.S.C. § 103. *See In re Shetty*, 566 F.2d 81, 86, 195 USPQ 753, 756-57 (CCPA 1977).

Because none of Matsuda et al., Yoshida et al. or Niles teach or suggest the use of a "slag trap" within a propellant composition, the combined references do not contain every limitation found in the independent claims for this reason alone. That one or more components within Matsuda et al., Yoshida et al. or Niles may inherently act as a "slag trap" under some circumstances is immaterial according to *In re Shetty*. Because no single reference discloses every limitation found in the claims, either literally or inherently, the PTO may not resort to inherency as a basis for rejecting the claims over the combination of Matsuda et al., Yoshida et al., and Niles.

The combination of Matsuda et al., Yoshida et al., and Niles also fails to disclose a propellant composition that includes a slag trap that is "essentially chemically-inert". As admitted by the Examiner, the combination of Matsuda et al. and Niles does not yield a propellant that comprises the slag trap recited in the claims of the present application. Assuming for the sake of argument that one of skill in the art would have been motivated to further combine Matsuda et al. and Niles with Yoshida et al., the resulting combination would fail to disclose an essentially chemically-inert slag trap. As clearly taught in Yoshida et al, titanium dioxide is an example of a "burning catalyst". Col. 5, lines 19-35. Because one of skill in the art would know that a "burning catalyst" is not "essentially chemically-inert", it is clear that combining Yoshida et al. with Matsuda et al. and Niles would not yield a propellant composition that includes an "essentially chemically-inert slag trap" as recited in the claims of the present application.

Based on the foregoing, the claims of the present application are further patentable over the combination of Matsuda et al., Yoshida et al., and Niles.

4. The Office Action Mischaracterizes Matsuda et al. when Alleging the Motivation to Combine Matsuda et al. with Yoshida et al., thus Failing to State a Prima Facie Obviousness Rejection Based on the Combination of Matsuda et al., Yoshida et al., and Niles

The Office Action fails to validly state a *prima facie* obviousness reaction because it fails to identify any teaching or suggestion actually found in the art for combining Yoshida et al. and Matsuda et al. Instead, the Office Action mischaracterizes the art when it alleges the following motivation for combining Yoshida et al. and Matsuda et al.: "It would have been obvious to use the titanium dioxide taught by Yoshida et al. with the composition of Matsuda since Yoshida

suggests that it will function to reduce the concentrations of CO and NOx and this is the purpose of the titanium oxide fiber disclosed in Matsuda." Office Action, page 3 (emphasis added). Applicants have carefully reviewed Matsuda et al. in detail and can find no teaching or suggestion in support of the Examiner's assertion that the whiskers or fibers of Matsuda et al. serve the purpose of reducing the concentration of CO and NOx. Applicants also searched the text of Matsuda et al. on the official PTO website and found no hits when searching for "CO", "carbon monoxide" or "NOx". For this reason alone, the stated motivation to combine Matsuda et al. with Yoshida et al. is simply not found in either reference, contrary to what is alleged in the Office Action.

Even more fundamentally, contrary to the allegation in the Office Action, Matsuda et al. does not disclose the use of "titanium oxide fiber". Again, Applicants searched the text of Matsuda et al. on the official PTO website and found no hits when searching for "titanium" or "titanium oxide". Because of this, the purported similarity between the "titanium dioxide taught by Yoshida", on the one hand, and the "titanium oxide fibers disclosed in Matsuda", on the other, alleged at page 3 of the Office Action is simply nonexistent. For this additional reason, the alleged motivation to combine Matsuda et al. with Yoshida et al. is not found in either reference, contrary to what is alleged in the Office Action.

5. Claim 23 is Further Patentable Because the Cited References Neither Teach nor Suggest Including a Catalytically Effective Layer of a Catalyst on the Slag Trap Particles

Claim 23 further distinguishes over the prior art of record because none teach or suggest the use of slag trap particles that also include a catalytically effective layer of a catalyst on a portion of the particles. The Office Action does not even allege that Matsuda et al. or Yoshida et al. teach or suggest the use of platinum or other catalysts. Moreover, whereas Niles discloses the use of platinum and other catalysts, they are not found as a layer on slag trap particles, let alone of the type recited in claim 23. For this additional reason, claim 23 is patentable over the cited art.

Moreover, whereas Applicants made this same argument in Amendment "B" and Response, the Office Action failed to identify any teaching or suggestion in the art for the specific physical relationship between the catalyst and the slag trap particles recited in claim 23.

Instead, the Office Action merely states that Niles discloses the use of platinum as a catalyst. As a result, the Office Action fails to show where the prior art teaches every limitation found in claim 23. Thus, the Office Action fails to state a *prima facie* obviousness rejection relative to claim 23.

B. Combination of Yamato et al., Yoshida et al., and Niles

The Office Action rejects claims 1-6 and 8-16 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,190,474 to Yamato[1] in view of Yoshida et al. and Niles. The Office Action admits that Yamato neither teaches nor suggests a propellant for gas generators that includes the slag trap recited in the independent claims. Moreover, the Office Action has already admitted that Niles is of no help in this regard since it withdrew all previous rejections that relied on Niles but not Yoshida et al. As a result, the Office Action further combines Yamato with Yoshida et al. based on the assertion that "[i]t would have been obvious to use the titanium dioxide taught by Yoshida et al. with the composition of Yamato since Yoshida suggests that it will function to reduce the concentrations of CO and NOx."

In response, Applicants submit that one of skill in the art would not have combined Yamato, Yoshida et al., and Niles in the manner urged in the Office Action for at least three reasons: (1) there is no teaching or suggestion in the art that would have motivated one of skill in the art to combine Yamato with Yoshida et al. and Niles to obtain the claimed slag trap; (2) there would have been no reasonable expectation of success; and (3) the combination of Yamato, Yoshida et al., and Niles does not yield every limitation set forth in the claims. Moreover, because the Office Action fails to draw any logical nexus between Yoshida et al. and Yamato or the slag trap recited in the claims of the present application, the Office Action fails to state a *prima facie* obviousness rejection based on Yamato, Yoshida et al., and Niles.

In view of the burden borne by the PTO in establishing a *prima facie* case of obviousness, failure of the PTO to conclusively establish any one of the criteria identified in the MPEP will eliminate the rejection based on the combination of Yamato, Yoshida et al., and Niles. Accordingly, any further Office Action must respond to and rebut each of the following arguments in order to maintain the rejection (or sustain it on appeal). Absent that, any further

[1] Because Yamato is only citable under 35 U.S.C. § 102(e), Applicants do not admit that Yamato is, in fact, prior art to the present invention, but reserve the right to establish an invention date earlier than the § 102(e) date of Yamato.

rejection based on Yamato, Yoshida et al., and Niles in combination with any other reference, or based on a new characterization of Yamato, Yoshida et al., and Niles, must be part of a non-final Office Action since Applicants have not amended the claims.

1. There is no Teaching or Suggestion in the Art to Combine Yamato with Yoshida et al.

The Office Action admits that Yamato fails to teach or suggest the use of the slag trap as recited in the claims of the present application. *See* Office Action, page 4. As persuasively argued in Amendment "B" and Response, Niles neither teaches nor suggests a propellant that includes a slag trap. Thus, the entire rejection relative to the slag trap is based on the combination of Yamato and Yoshida et al.

As stated above, the technical problem that is solved by the claimed slag trap is to trap slag formed during combustion of the claimed propellant composition in order to reduce or prevent the formation of powder (dust-type) particles that can be expelled from the housing of the gas generator. It is clear that none of Yamato, Yoshida et al, or Niles is even aware of the technical problem, let alone informative as to the solution this problem, *i.e.*, by the use of a slag trap. Because none of the references, including Yoshida et al., teaches or suggests the use of a slag trap to reduce or prevent formation and expulsion of powder during combustion, there was simply no teaching or suggestion in the art at the time of the present invention to combine the references in the manner urged in the Office Action. That Yoshida et al. teaches that titanium dioxide may act to absorb CO and NOx in addition to acting as a burn catalyst is entirely immaterial to the problem solved by the slag trap within the claimed compositions of the present application. CO and NOx are gases, not slag. Therefore, there is no logical nexus between the teaching in Yoshida et al. regarding the ability of titanium dioxide to absorb CO and NOx and the slag trap claimed in the present application. Accordingly, there is no suggestion in the art that would have motivated one of skill in the art to modify Yamato to include a slag trap based on the teachings of Yoshida et al.

Moreover, even assuming for the sake of argument that the titanium dioxide disclosed in Yoshida et al. might inherently act as a slag trap in certain circumstances, a point which Applicants in no wise concede, Applicants remind the Examiner that inherency is immaterial in the context of an obviousness rejection and is only a valid consideration when making an

anticipation rejection. An inherent, but unknown, property cannot provide the motivation to combine references in an obviousness rejection.

For this reason alone, the claims as previously presented are patentable over the combination of Matsuda et al., Yoshida et al., and Niles

2. There is no Reasonable Expectation of Success Based on the Teachings of the Cited References

Each of the independent claims in the present application requires the use of "slag trap" particles (*i.e.*, particles that are capable of trapping slag formed during combustion of the gas generating composition). This solves the technical problem of the formation of slag during combustion, which can result in fine particles being expelled from the housing of the gas generator during use. Based on the combined teachings of Yamato, Yoshida et al., and Nile, there is no reasonable expectation of success (*i.e.*, there is no reasonable expectation that the technical problem solved by the slag trap particles within the claimed composition would be solved by combining Yamato, Yoshida et al., and Nile).

The Office Action admits that Yamato and Niles fail to disclose a propellant that includes a slag trap. Yoshida et al., on the other hand, never characterizes the titanium oxide particles disclosed therein as being able to trap slag. Indeed, the Office Action does not even allege that any of the references teach or suggest the use of a slag trap. Instead, the Office Action merely alleges that Yoshida et al. "suggests that [titanium dioxide] will function to reduce the concentrations of CO and NOx". Office Action, Page 4. Because Yamato, Yoshida et al., and Niles contain no teaching or suggestion relating to the technical problem of trapping slag, let alone any solution to this problem, there is no reasonable likelihood that combining these references would solve the technical problem solved by the slag trap recited in the claims of the present application, absent resorting to the present application. However, a rejection may not be based on hindsight, with an applicants own invention as a template.

Based on the foregoing arguments, the claims as previously presented are further patentable over the combination of Yamato, Yoshida et al., and Niles for this additional reason.

3. The Combination of Yamato, Yoshida et al., and Niles Does Not Teach or Suggest Every Limitation set forth in the Claims

The combination of Yamato, Yoshida et al., and Niles fails to disclose a propellant composition that includes an "essentially chemically-inert slag trap" that is "at least one of Al_2O_3, TiO_2, or ZrO_2 particles". As discussed immediately above, none of the references characterize any of the components disclosed therein as a "slag trap" (*i.e.*, a component capable of trapping slag formed during combustion of the propellant composition). Therefore, the combination of references fails to teach or suggest a "slag trap".

Because the concept of inherency is applicable only to anticipation under 35 U.S.C. § 102, whether or not the titanium dioxide particles of Yoshida et al. inherently trap slag is entirely immaterial to the obviousness rejection based on the combination of Yamato, Yoshida et al., and Niles. That which is inherent in the prior art, if not known at the time of the invention, cannot form a proper basis for rejecting the claimed invention as obvious under 35 U.S.C. § 103. *See In re Shetty*. Because none of Yamato, Yoshida et al. or Niles teach or suggest the use of a "slag trap" within a propellant composition, the combined references do not contain every limitation found in the independent claims for this reason alone. That one or more components within Yamato, Yoshida et al. or Niles may inherently act as a "slag trap" under some circumstances is immaterial according to *In re Shetty*. Because no single reference discloses every limitation found in the claims, either literally or inherently, the PTO may not resort to inherency as a basis for rejecting the claims over the combination of Yamato, Yoshida et al., and Niles.

The combination of Yamato, Yoshida et al., and Niles also fails to disclose a propellant composition that includes a slag trap that is "essentially chemically-inert". As admitted by the Examiner, the combination of Yamato and Niles does not yield a propellant that comprises the slag trap recited in the claims of the present application. Assuming for the sake of argument that one of skill in the art would have been motivated to further combine Yamato and Niles with Yoshida et al., the resulting combination would fail to disclose an essentially chemically-inert slag trap. As clearly taught in Yoshida et al, titanium dioxide is an example of a "burning catalyst". Col. 5, lines 19-35. Because one of skill in the art would know that a "burning catalyst" is not "essentially chemically-inert", it is clear that combining Yoshida et al. with Yamato and Niles would not yield a propellant composition that includes an "essentially chemically-inert slag trap" as recited in the claims of the present application.

In view of the foregoing, the claims of the present application are further patentable over the combination of Yamato, Yoshida et al., and Niles.

4. The Office Action Fails to State a Prima Facie Obviousness Rejection Based on the Combination of Yamato, Yoshida et al., and Niles Because it Provides no Logical Nexus Between Yoshida et al. and Yamato or the Slag Trap Recited in the Claims of the Present Application

The Office Action fails to validly state a *prima facie* obviousness reaction because it fails to provide any logical nexus between the teachings of Yamato and Yoshida et al. that would have motivated the combination. Instead, the Office Action irrelevantly states that "[i]t would have been obvious to use the titanium dioxide taught by Yoshida et al. with the composition of Yamato since Yoshida suggests that it will function to reduce the concentrations of CO and NOx". Office Action, page 4. What reducing the concentration of CO and NOx has to do with Yamato is anyone's guess, because the Office Action does not tell us why one of skill in the art would have cared to modify Yamato to reduce the concentration of CO and NOx. Nor does the Office Action point to any teaching in the art to establish that the compositions of Yamato would benefit or be improved in some way if modified to include the titanium dioxide of Yoshida et al. For example, the Office Action could have, but did not, provide any teaching that the Yamato composition produces high amounts of CO and NOx that would make the remediation of such gases using the titanium dioxide of Yoshida et al. desirable, let alone legally "obvious". For this reason alone, the alleged motivation to combine Yamato with Yoshida et al. is simply not found in the art, contrary to what is alleged in the Office Action.

Even more fundamentally, the alleged motivation to combine Yoshida et al. with Yamato as stated in the Office Action bears no logical relationship to the technical problem of reducing slag formation by means of a slag trap. That Yoshida et al. may provide a way to reduce CO and NOx gases does not provide any motivation to reduce slag formation by means of a slag trap. For this additional reason, the alleged motivation to combine Yamato with Yoshida et al. is simply not found in the art, contrary to what is alleged in the Office Action.

5. **Claim 23 is Further Patentable Because the Cited References Neither Teach Nor Suggest Including a Catalytically Effective Layer of a Catalyst on the Slag Trap Particles**

Claim 23 further distinguishes over the prior art of record because none teach or suggest the use of slag trap particles that also include a catalytically effective layer of a catalyst on a portion of the particles. The Office Action does not even allege that Yamato or Yoshida et al. teach or suggest the use of platinum or other catalysts. Moreover, whereas Niles discloses the use of platinum and other catalysts, they are not found as a layer on slag trap particles, let alone of the type recited in claim 23. For this additional reason, claim 23 is patentable over the cited art.

Moreover, whereas Applicants made this same argument in Amendment "B" and Response, the Office Action failed to identify any teaching or suggestion in the art for the specific physical relationship between the catalyst and the slag trap particles recited in claim 23. Instead, the Office Action merely states that Niles discloses the use of platinum as a catalyst. As a result, the Office Action fails to show where the prior art teaches every limitation found in claim 23. Thus, the Office Action fails to state a *prima facie* obviousness rejection relative to claim 23.

III. CONCLUSION

In view of the foregoing, Applicants submit that the claims are allowable over the prior art of record. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or that can be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 6th day of November 2003.

Respectfully submitted,

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